DOCKET NO: 278869US2PCT

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF	:
BOGDAN SERBAN	: EXAMINER: STONE, R.M.
SERIAL NO: 10/553,657	:
FILED: OCTOBER 14, 2005	: GROUP ART UNIT: 2629
FOR: POSITION DETECTION DEVICE	:

APPEAL BRIEF

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

SIR:

Appellants submit herewith their appeal of the Non-Final Rejection presented in the Office Action dated April 13, 2009.

I. REAL PARTY IN INTEREST

The real party in interest in this appeal is the assignee, IEE International Electronics & Engineering S.A.

II. RELATED APPEALS AND INTERFERENCES

Appellants' legal representatives and the assignee are aware of no appeals which will directly affect or be directly affected by or have any bearing on the Board's decision in this appeal.

III. STATUS OF THE CLAIMS

Claims 9-24 stand rejected as noted below, and the rejections of Claims 9-24 are herein appealed. Claims 1-8 have been canceled.

In the Official Action dated April 13, 2009, Claims 9, 11, 12, 16, 17, 19, 20, and 24 were rejected under 35 U.S.C. §103(a) as unpatentable over Asher (U.S. Patent No. 5,159,159) in view of Eckert (U.S. Patent No. 3,806,912); Claims 10 and 18 were rejected under 35 U.S.C. §103(a) as unpatentable over Asher in view of Eckert, and further in view of Buchana (U.S. Patent No. 5,543,589); and Claims 13-15 and 21-23 were rejected under 35 U.S.C. §103(a) as unpatentable over Asher in view of Eckert, and further in view of Kakuhashi (U.S. Patent No. 4,517,546).

IV. STATUS OF THE AMENDMENTS

Appellants' latest amendment was filed on January 21, 2009 and was entered. All previous amendments were entered. A Request for Reconsideration was filed on July 8, 2009 and was entered.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER[1]

Claim 9 is directed toward a position detection device, comprising:

a first substrate [Fig. 1, and page 8, lines 5-6 of the specification];

a first ohmic resistor [Fig. 1, element 10, and page 8, line 6 of the specification] applied to said first substrate and extending along an active surface of said position detector, said first ohmic resistor connected between first and second terminals [terminals 14 and 16 of Fig. 1, page 8, lines 12-13 of the specification] of said position detection device;

a plurality of electrical conductors [Fig. 1, element 22, and page 8, line 15 of the specification] connected to the first ohmic resistor at discrete points thereon and said electrical conductors extending from the first ohmic resistor within the active surface [Fig. 1 and page 8, lines 15-20 of the specification]; and

a plurality of conducting elements [Fig. 1, element 24, and page 8, line 22] arranged, within said active surface, so as to alternate between said electrical conductors, a first end of said conducting elements being connected to a third terminal of said position detection device [Fig. 1 and page 8, lines 22-27];

wherein said conducting elements [Fig. 1, element 24] are configured as an ohmic resistor extending over the active surface of the device and a second end of said conducting elements is connected to a fourth terminal of said position detection device [page 8, lines 22-27].

Claim 16 is directed toward a data input device [Fig. 2] including a position detection device [Fig. 2, element 8], said position detection device comprising:

a first substrate [Fig. 1, and page 8, lines 5-6 of the specification];

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[1] It is Appellants' understanding that, under the rules of Practice before the Board of Patent Appeals and Interference, 37 C.F.R. § 41.37(c) requires that a concise explanation of the subject matter recited in each independent claim be provided with reference to the specification by page and line numbers and to the drawings by reference characters. However, Appellants' compliance with such requirements anywhere in this document should in no way be interpreted as limiting the scope of the invention recited in all pending claims, but simply as non-limiting examples thereof.

a first ohmic resistor [Fig. 1, element 10, and page 8, line 6 of the specification] applied to said first substrate and extending along an active surface of said position detector, said first ohmic resistor connected between first and second terminals [terminals 14 and 16 of Fig. 1, page 8, lines 12-13 of the specification] of said position detection device;

a plurality of electrical conductors [Fig. 1, element 22, and page 8, line 15 of the specification] connected to the first ohmic resistor at discrete points thereon and said electrical conductors extending from the first ohmic resistor within the active surface [Fig. 1 and page 8, lines 15-20 of the specification]; and

a plurality of conducting elements [Fig. 1, element 24, and page 8, line 22] arranged, within said active surface, so as to alternate between said electrical conductors, a first end of said conducting elements being connected to a third terminal of said position detection device [Fig. 1 and page 8, lines 22-27];

wherein said conducting elements [Fig. 1, element 24] are configured as an ohmic resistor extending over the active surface of the device and a second end of said conducting elements is connected to a fourth terminal of said position detection device [page 8, lines 22-27].

Claim 17 is directed toward a position detection device having an active surface and at least a first and a second terminal, said position detector comprising:

a first substrate [Fig. 1, and page 8, lines 5-6 of the specification];

a first ohmic resistor [Fig. 1, element 10, and page 8, line 6 of the specification] applied to said first substrate and extending along said active surface, said first ohmic resistor being connected between said first and second terminals [terminals 14 and 16 of Fig. 1, page 8, lines 12-13 of the specification];

a plurality of electrical conductors [Fig. 1, element 22, and page 8, line 15 of the specification] connected to the first ohmic resistor at discrete points thereon and said

electrical conductors extending from the first ohmic resistor within the active surface [Fig. 1 and page 8, lines 15-20 of the specification]; and

a plurality of conducting elements [Fig. 1, element 24, and page 8, line 22] arranged, within said active surface, between said electrical conductors so as to alternate with said electrical conductors, a first end of said conducting elements being connected to a third terminal of said position detection device [Fig. 1 and page 8, lines 22-27];

wherein said conducting elements [Fig. 1, element 24] are configured as an ohmic resistor extending over the active surface of the device and a second end of said conducting elements is connected to a fourth terminal of said position detection device [page 8, lines 22-27].

Claim 24 is directed toward a data input device [Fig. 2] including a position detection device [Fig. 2, element 8] having an active surface [specification, page 9, line 16] and at least a first and a second terminal, said position detection device comprising:

a first substrate [Fig. 1, and page 8, lines 5-6 of the specification];

a first ohmic resistor [Fig. 1, element 10, and page 8, line 6 of the specification] applied to said first substrate and extending along said active surface, said first ohmic resistor being connected between said first and second terminals [terminals 14 and 16 of Fig. 1, page 8, lines 12-13 of the specification];

a plurality of electrical conductors [Fig. 1, element 22, and page 8, line 15 of the specification] connected to the first ohmic resistor at discrete points thereon and said electrical conductors extending from the first ohmic resistor within the active surface [Fig. 1 and page 8, lines 15-20 of the specification]; and

a plurality of conducting elements [Fig. 1, element 24, and page 8, line 22] arranged, within said active surface, between said electrical conductors so as to alternate with said

electrical conductors, a first end of said conducting elements being connected to a third terminal of said position detection device [Fig. 1 and page 8, lines 22-27];

wherein said conducting elements [Fig. 1, element 24] are configured as an ohmic resistor extending over the active surface of the device and a second end of said conducting elements is connected to a fourth terminal of said position detection device [page 8, lines 22-27].

VI. GROUNDS FOR REJECTION TO BE REVIEWED ON APPEAL

Whether Claims 9, 11, 12, 16, 17, 19, 20, and 24 are unpatentable under 35 U.S.C. §103(a) as obvious over Asher (U.S. Patent No. 5,159,159) in view of Eckert (U.S. Patent No. 3,806,912).

Whether Claims 10 and 18 are unpatentable under 35 U.S.C. §103(a) as obvious over Asher in view of Eckert, and further in view of Buchana (U.S. Patent No. 5,543,589).

Whether Claims 13-15 and 21-23 are unpatentable under 35 U.S.C. §103(a) as obvious over Asher in view of Eckert, and further in view of Kakuhashi (U.S. Patent No. 4,517,546).

VII. ARGUMENT

A. THE REJECTION OF CLAIMS 9, 11-12, 16, 17, 19, 20, and 24 IS IMPROPER

Claim 9 recites, *inter alia*,

> a plurality of conducting elements ***arranged, within said active surface, so as to alternate between said electrical conductors, a first end of said conducting elements being connected to a third terminal of said position detection device***;
>
> wherein ***said conducting elements are configured as an ohmic resistor extending over the active surface of the device*** and ***a second end of said conducting elements is connected to a fourth terminal of said position detection device.***

Claims 16, 17, and 24 recite analogous elements.

Asher and Eckert, when taken in proper combination, do not disclose or suggest every element of Claim 9.

Asher describes a touch sensor comprising two insulating substrates 28 and 29, which are arranged one above the other.[2] A fixed resistor is arranged on each of the substrates for generating a potential graduate along one specific direction of the area to be sensed. Finally, a force sensitive resistor 42 is arranged between the substrates that changes its local resistance as a function of the pressure applied.

The general configuration of the touch sensor is described in "Summary of the Invention" section in col. 4, lines 43-52 of Asher. This section of Asher states,

> the touch sensor of the present invention comprises ***a lower, or X, substrate***; an X fixed resistor which establishes a potential gradient along an X dimension relative to the X substrate; two X terminals connected to the X fixed resistor; ***an upper, or Y substrate***; a Y fixed resistor which establishes a potential gradient along a Y dimension relative to the Y substrate; two Y terminals connected to the Y fixed resistor; and a force variable resistor sandwiched between the upper (Y) and lower (X) substrates.

When a finger or stylus presses on the upper substrate of the touch sensor of Asher, the local resistance of the force variable resistor under the touch point decreases as a function of the applied pressure. The touch point also temporarily divides the X fixed resistor into two segments, and similarly divides the Y fixed resistor into two segments; the fixed resistor segments forming electrical nodes with the force variable resistor.[3] The position of the finger or stylus on the surface of the touch sensor can be determined by measuring the resistance of

[2] Asher, Abstract and Fig. 12.
[3] Asher, col. 4, lines 53-61.

the fixed resistor segments, and the pressure can be determined by measuring the resistance of the force variable resistor.[4]

Figs. 1 and 2 of Asher describe one embodiment of a touch sensor, in which conductive traces 30 and 31 extend from the respective fixed resistors 32 and 33 across the active area of the touch sensor. In Figs. 1 and 2 of Asher, the sensor is represented in its unassembled or unfolded condition. To assemble the touch sensor, the substrate has to be folded in half along the dotted line 22, so that the X conductive traces 31 overlap, are oriented orthogonally to, and are facing the Y conductive traces 30.[5] Asher thus describes a sensor, in which the X conductive traces and the Y conductive traces are not only oriented orthogonally to each other, but they are also arranged in two different planes (one above the other).

The conducting elements identified at the bottom of page 3 of the outstanding Office Action include conductive traces 30 of Asher, which extend from the fixed resistor 32 across the active area of the touch sensor. The conductive traces are made from an electrically conductive ink or from a thin metallic film.[6] The conductive traces 30 of Asher are therefore electrically conductive so that if a voltage is applied to the conductive trace via the fixed resistor, the conductive trace will be at the same electrical potential across its entire length. The fact that force sensitive resistor traces 40 are applied on top of the conductive trace 30 does not change this behavior.

Asher fails to disclose or suggest the claimed "a first end of said conducting elements is connected to a third terminal of said position detection device" and "a second end of said conducting elements is connected to a fourth terminal of said position detection device," as recited in Claim 9.

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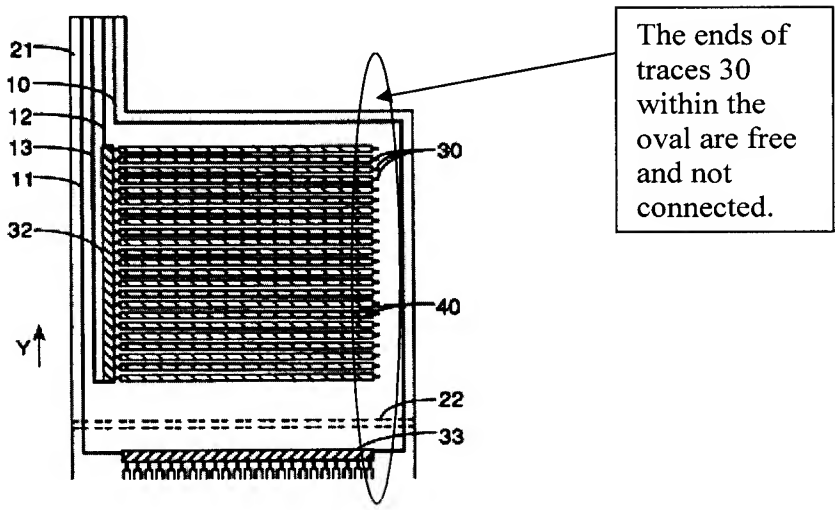
[4] Asher, col. 4, line 66 to col. 5, line 2.
[5] Asher, col. 8, lines 51-54.
[6] Asher, col. 7, lines 61-66.

A portion of Asher's Fig. 2 is reproduced below.



The conductive traces 30 of the Asher touch sensor are connected at their first end to the fixed resistor 32. However, as is shown by Figs. 2 of Asher (see annotation above), ***the second end of the conductive traces 30 are free and are not connected to any terminal or other part of the touch sensor***. Thus, Asher describes conductive elements, wherein only a first end is connected, while the other end is unconnected.

In the Advisory Action mailed July 29, 2009, the Examiner states "[t]he cited prior art of [Asher] teaches conductive traces 30 in Fig. 2 with one end directly connected to a third and fourth terminals 12 and 13, respectively, which are connected to the circuitry for deteting [sic] touch position in the Y dimension [col. 8, lines 5-7, 10-11, and 35-41]. Consequently, the opposing end of the conductive trace 30 must also be connected to terminals 12 and 13 since both ends of conductive trace 30 are necessarily connected to each other."

This position of the Examiner is unreasonable. It is unreasonable to interpret a free end of Asher's element 30 as being connected, which is an interpretation that would result in reading "connected" as identical to it antonym.[7]

[7] *See, Ex parte Mathew L. Koele, Robert L. Popp, and William M. Lynch*, Appeal 2008-2025, page 6.

Col. 8, lines 26-29 of Asher states that the fixed resistor 32 overlays **one** end of each of the conductive traces. A person of ordinary skill in the art would understand this to mean that only one end of the conductive traces is connected to fixed resistor 32. The Office's above-noted interpretation of Asher's Fig. 2 is inconsistent with the specification of Asher.

Moreover, Asher's specification does not contain any information (neither explicit nor implicit) which could lead a person of ordinary skill in the art to conclude that the second end of the conductive traces 30 are connected to the fixed resistor 32 or to one of the terminals of the touch sensor.

Furthermore, the Office's interpretation of Asher and "connected" is so broad that it does not provide for a distinction between connected and free or unconnected. The broadest **reasonable** interpretation cannot be one that does not recognize a difference between connected and free or unconnected. A person of ordinary skill in the art ***would not understand*** "connected" in the way it is being used by the Office.

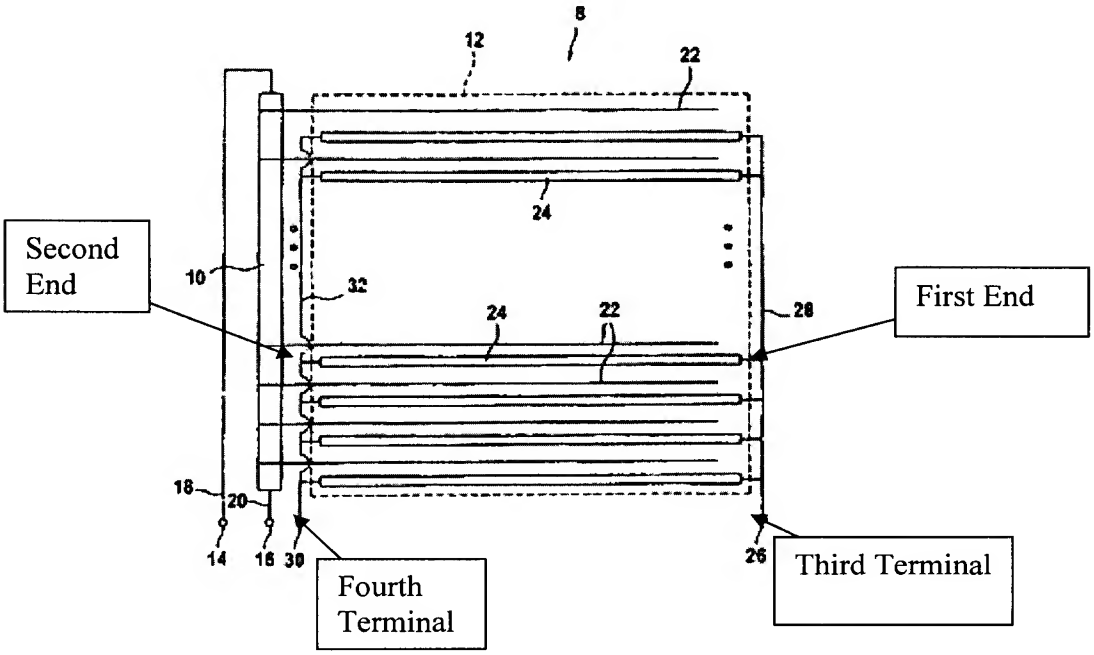
The Examiner cannot merely give the claims the broadest interpretation within reason. On the contrary, the Examiner must give the claims the broadest reasonable interpretation in ***light of the specification as it would be interpreted by one of ordinary skill in the art.***

As stated by the Board of Patent Appeals and Interferences in *Ex parte John Temple* (Appeal 2009-0012, decided March 16, 2009) at page 12,

> The Examiner must therefore "determine[] the scope of claims in patent applications *not solely on the basis of the claim language*, but upon giving claims their broadest reasonable construction 'in light of the specification as it would be interpreted by one of ordinary skill in the art.'" *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed. Cir. 2005) (emphasis added) (quoting *In re American Academy of Science Tech Center*, 367 F.3d 1359, 1364 (Fed. Cir. 2004).
>
> In addition to the Specification, Appellant's drawings may be consulted to determine the meaning of claim terms.

The Examiner's position is so impermissibly broad that no wire could ever be described as having an end that is free or not connected.

Applicant's Fig. 1, reproduced below, shows how the first and second ends of the conducting elements 24 are connected to different terminals.



When Applicant's Fig. 1 is compared to Fig. 2 of Asher, there is a clear distinction between the connection of the ends of the conducting elements 30 of Asher and the conducting elements 24 of Applicant. A person of ordinary skill in the art, in light of the comparison between Applicant's Fig. 1 and Asher's Fig. 2, would not interpret the claimed "a first end of said conducting elements is connected to a third terminal of said position detection device" and "a second end of said conducting elements is connected to a fourth terminal of said position detection device" as reading on the Asher figure.[8]

Furthermore, the Federal Circuit has recognized that there are limits to the Examiner's ability to broadly interpret claims. The Federal Circuit has stated "[w]e agree with Buszard that it is not a reasonable claim interpretation to equate 'flexible' with 'rigid'" *In re Buszard*,

[8] *See, Ex parte John Temple*, Appeal 2009-0012, pages 14-15.

504 F.3d 1364, 1367 (Fed. Cir. 2007). Moreover, the BPAI has held that it was unreasonable for the examiner to interpret "continuous electric field" as reading on multiple electric pulses,[9] and that it was unreasonable for the examiner to interpret "substantially ungathered" as reading on creped.[10]

Like wise, it is unreasonable for the Examiner in this application to interpret "a first end of said conducting elements is connected to a third terminal of said position detection device" and "a second end of said conducting elements is connected to a fourth terminal of said position detection device" as reading on the conducting elements 30 of Asher that have a free un-connected end as noted above.

Furthermore, in Applicant's invention, a potential across the conducting elements can be measured at the third and fourth terminals. However, there are no terminals in Asher through which a potential across elements 30 can be measured because one end of elements 30 is disconnected and free.

Thus, Asher does not disclose or suggest the claimed "a first end of said conducting elements is connected to a third terminal of said position detection device" and "a second end of said conducting elements is connected to a fourth terminal of said position detection device."

Furthermore, Eckert does not cure the above-noted deficiencies in Asher.

Eckert describes a graphical input board including a fixed resistor 16 extending along an active area of the input board and a plurality of conductive paths 14 extending from the resistor 16 across the active area. In contrast to the claimed invention, only one end of the fixed resistor of Eckert is connected to some part of a detection circuit.

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[9] *See, Ex parte Mark. J. Jaroszeski, Richard Gilbert, and Richard Heller*, Appeal 2008-4222, decided September 2, 2008.
[10] *See, Ex parte Mathew L. Koele, Robert L. Popp, and William M. Lynch*, Appeal 2008-2025.

Furthermore, Eckert describes a plurality of resistive paths 20 arranged with the active surface so as to alternate between the conductive paths 14. A first end of the resistive paths 20 is connected via conductive path 18 to some part of a detection circuit. The second end of the resistive paths 20 is free, which means that it is not connected to a terminal or to a detection circuit. Thus, Eckert also does not disclose or suggest the claimed "a first end of said conducting elements is connected to a third terminal of said position detection device" and "a second end of said conducting elements is connected to a fourth terminal of said position detection device."

In view of the above-noted deficiencies, a person of ordinary skill in the art could not properly combine Asher and Eckert to arrive at the invention defined by Claim 9.

Thus, the rejection of Claim 9 as obvious over Asher and Eckert should be reversed.

Claims 16, 17, and 24 recite elements analogous to those of Claim 9. Thus, the rejections of Claims 16, 17, and 24 as unpatentable over the combination of Asher and Eckert should also be reversed.

The rejection of Claims 11, 12, 19, and 20 is also improper as these claims depend from Claims 9 and 17.

B. THE REJECTION OF CLAIMS 10 AND 18 IS IMPROPER

Claims 10 and 18 depend from Claims 9 and 17, and patentably distinguish over Asher and Eckert, taken in proper combination, for at least the reasons stated for Claim 9. Buchana fails to cure the above-noted deficiencies.

C. THE REJECTION OF CLAIMS 13-15 and 21-23 IS IMPROPER

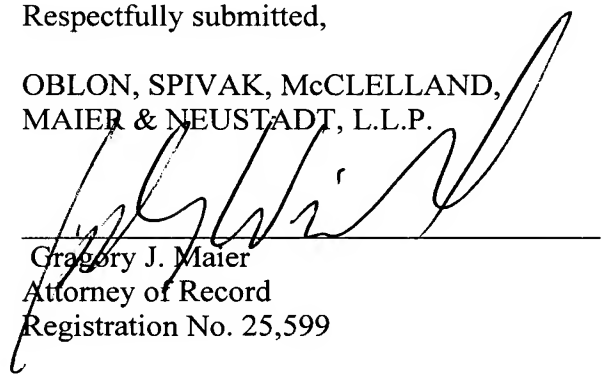
Claims 13-15 and 21-23 depend from Claims 9 and 17, and patentably distinguish over Asher and Eckert, taken in proper combination, for at least the reasons stated for Claim 9. Kakuhashi fails to cure the above-noted deficiencies.

D. CONCLUSION

In view of the foregoing, it is respectfully submitted that the outstanding rejections are improper, not supported by substantial evidence, and must be reversed.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, L.L.P.



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VIII. CLAIMS APPENDIX

Claims 1-8 (Canceled).

Claim 9 (Rejected): A position detection device, comprising:

a first substrate;

a first ohmic resistor applied to said first substrate and extending along an active surface of said position detector, said first ohmic resistor connected between first and second terminals of said position detection device;

a plurality of electrical conductors connected to the first ohmic resistor at discrete points thereon and said electrical conductors extending from the first ohmic resistor within the active surface; and

a plurality of conducting elements arranged, within said active surface, so as to alternate between said electrical conductors, a first end of said conducting elements being connected to a third terminal of said position detection device;

wherein said conducting elements are configured as an ohmic resistor extending over the active surface of the device and a second end of said conducting elements is connected to a fourth terminal of said position detection device.

Claim 10 (Rejected): The device as claimed in claim 9, wherein the first substrate comprises an elastic support sheet.

Claim 11 (Rejected): The device as claimed in claim 9, wherein the first substrate comprises a printed circuit board.

Claim 12 (Rejected): The device as claimed in claim 9, wherein said conducting elements are made of a same material as said electrical conductors.

Claim 13 (Rejected): The device as claimed in claim 9, further comprising a second substrate and a layer made of resistive or semiconductor material applied to said second substrate, said second substrate being arranged on top of the first substrate such that said layer of resistive or semiconductor material faces said electrical conductors and conducting elements within the active surface.

Claim 14 (Rejected): The device as claimed in claim 13, wherein said second substrate comprises an elastic support sheet.

Claim 15 (Rejected): The device as claimed in claim 13, further comprising a pressure-distributing layer applied to said second substrate.

Claim 16 (Rejected): A data input device including a position detection device, said position detection device comprising:

a first substrate;

a first ohmic resistor applied to said first substrate and extending along an active surface of said position detector, said first ohmic resistor connected between first and second terminals of said position detection device;

a plurality of electrical conductors connected to the first ohmic resistor at discrete points thereon and said electrical conductors extending from the first ohmic resistor within the active surface; and

a plurality of conducting elements arranged, within said active surface, so as to alternate between said electrical conductors, a first end of said conducting elements being connected to a third terminal of said position detection device;

wherein said conducting elements are configured as an ohmic resistor extending over the active surface of the device and a second end of said conducting elements is connected to a fourth terminal of said position detection device.

Claim 17 (Rejected): A position detection device having an active surface and at least a first and a second terminal, said position detector comprising:

a first substrate;

a first ohmic resistor applied to said first substrate and extending along said active surface, said first ohmic resistor being connected between said first and second terminals;

a plurality of electrical conductors connected to the first ohmic resistor at discrete points thereon and said electrical conductors extending from the first ohmic resistor within the active surface; and

a plurality of conducting elements arranged, within said active surface, between said electrical conductors so as to alternate with said electrical conductors, a first end of said conducting elements being connected to a third terminal of said position detection device;

wherein said conducting elements are configured as an ohmic resistor extending over the active surface of the device and a second end of said conducting elements is connected to a fourth terminal of said position detection device.

Claim 18 (Rejected): The device as claimed in claim 17, wherein the first substrate comprises an elastic support sheet.

Claim 19 (Rejected): The device as claimed in claim 17, wherein the first substrate comprises a printed circuit board.

Claim 20 (Rejected): The device as claimed in claim 17, wherein said conducting elements are made of a same material as said electrical conductors.

Claim 21 (Rejected): The device as claimed in claim 17, further comprising a second substrate and a layer made of resistive or semiconductor material applied to said second substrate, said second substrate being arranged on top of the first substrate such that said layer of resistive or semiconductor material faces said electrical conductors and conducting elements within the active surface.

Claim 22 (Rejected): The device as claimed in claim 21, wherein said second substrate comprises an elastic support sheet.

Claim 23 (Rejected): The device as claimed in claim 21, further comprising a pressure-distributing layer, applied to said second substrate.

Claim 24 (Rejected): A data input device including a position detection device having an active surface and at least a first and a second terminal, said position detection device comprising:

a first substrate;

a first ohmic resistor applied to said first substrate and extending along said active surface, said first ohmic resistor being connected between said first and second terminals;

a plurality of electrical conductors connected to the first ohmic resistor at discrete points thereon and said electrical conductors extending from the first ohmic resistor within the active surface; and

a plurality of conducting elements arranged, within said active surface, between said electrical conductors so as to alternate with said ~~first~~ electrical conductors, a first end of said conducting elements being connected to a third terminal of said position detection device;

wherein said conducting elements are configured as an ohmic resistor extending over the active surface of the device and a second end of said conducting elements is connected to a fourth terminal of said position detection device.

IX. EVIDENCE APPENDIX

None.

X. RELATED PROCEEDINGS APPENDIX

None.